UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,806	02/08/2001	Ouelid Abdesselem	CE50044P	5599

20280 7590 07/29/2004

MOTOROLA INC
600 NORTH US HIGHWAY 45
ROOM AS437
LIBERTYVILLE, IL 60048-5343

EXAMINER	
SHAH, CHIRAG G	

ART UNIT	PAPER NUMBER
2664	2

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/779,806	ABDESSELEM ET AL.	
	Examiner	Art Unit	
	Chirag G Shah	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/08/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8 and 10-13 rejected under 35 U.S.C. 102(e) as being anticipated by Barany et al. (U.S. Patent No. 6,584,084) hereinafter Barany.

Referring to claim 1, Barney discloses in figures 12-15, lines 30-67 and column 14, lines 38-67 and column 15, lines 1-62 of a communication system using multi-frame (TDMA frames as in column 14, lines 38-67) signals, each frame of the multi-frame signal being divided into a plurality of timeslots (TDMA frame 110 is divided into a plurality of time slots as in column 14, lines 38-67), wherein in at least one frame of the multi-frame signal first control channel information (PBCCH, PCCCH, PFCCH, and PSCH are transmitted during time slot TN1 as disclosed in column 14, lines 38-67) is transmitted in a first timeslot (TN1) immediately preceding a second timeslot in which second control channel information (in time group 2, control channels are transmitted in time slot TN3 as disclosed in column 14, lines 38-67) is transmitted as claim.

Referring to claim 2, Barany discloses in column 17, lines 29 to column 18, lines 7 and column 18, lines 49 to column 19, lines 8 wherein bursts containing control

channel information overlap the time slot boundary between first and second timeslot (because the mobile unit may be located closer to a first base station than a neighboring base station, propagation delays due to distances involved in relatively large cells can cause overlap of packet data traffic and control signals in different time slots of the first and neighboring base stations, which may violate the requirement that the time slots be aligned due to inter-base station synchronization as disclosed in column 17, lines 29 to column 18, lines 7) as claim.

Referring to claim 3, Barany discloses in column 13, lines 30 to column 14, lines 28 wherein the first control channel information is frequency correction information (PFCCH) and the second control channel information is synchronization information (PSCH). Barany further discloses in column 17, lines 29 to column 18, lines 34 wherein adjacent bursts containing first (PFCCH) and second control (PSCH) channel information have a combined length (Burst is 148 bits long for PFCCH and Burst is 148 bits long for PSCH, totaling 296 bits long) greater than a normal burst length (which has one control channel at approximately 148 bits long) as claim.

Referring to claim 4, Barany discloses in column 16, lines 17-44 wherein a single burst containing first control channel information (PSCH) and second control channel information (PFCCH) is transmitted as claim.

Referring to claim 5, Barany discloses in figures 16A, 16B, 17 and in column 15, lines 49 to column 16, lines 16 wherein the control channel information contains information indicating the frame of the multi-frame containing the control channel information (Three blocks of each multi-frame are assigned to PCCCH (frames

containing a C) and one block is assigned to PBCCH (frames containing a B); A block includes four TDMA frames) as claim.

Referring to claim 6, Barany discloses in column 5, lines 1-55 implies wherein the length of a burst (data packet) or the part of a burst which contains first control channel (as disclosed in column 13, lines 66 to column 14, lines 28) information may be less than the length of a normal burst since in a normal or low bursty traffic cell segment, only the main group of packet data carriers are utilized, while in a high bursty traffic cell segment, both the main group and secondary group of carriers are used, clearly establishing that in a high bursty environment, more control signal bursts on each carrier may be needed to handle the larger number of call setups and termination. This causes the length of burst on a normal burst to be greater in length than that of the length of a burst which contains first control channel as claim.

Referring to claim 7, Barany discloses in column 15,lines 49 to column16, lines 16 wherein the length of a burst or the part of a burst containing first control channel information is variable (the number of blocks allocated for PBCCH and PCCCH control channel information is flexible, from two up to 12 blocks per time slot in each multi-frame 120) as claim.

Referring to claim 8, Barany discloses in column 19, lines 67 and in claim 1 wherein the length of a burst or part of a burst containing first control channel information depends on the size of cells in the communication system (A concern in a system with relatively large cell sizes is the overlap of data traffic on PDTCH with PBCCH, PCCCH, and other control channels. With larger cells, overlap of tie slots may cause interference of the data traffic and control signaling, thus to rectify this problem,

packet data traffic is removed from blocks carrying control channels PBCCH and PCCCH in time slots TN0, TN2. Clearly establishing, the length of a burst containing PBCCH or PCCCH depends on the size of the cell) as claim.

Referring to claim 10, Barany discloses in column 13, lines 30 to column 14, lines 28 wherein the first control channel information is frequency correction information and the second control channel information is synchronization information (The control channels employed in the packet data link include a packet frequency correction channel (PFCCH) and a packet synchronization channel (PSCH), PFCCH and PSCH are used to synchronize a mobile unit 20 to the time slot structure of each cell by defining the boundaries of burst periods and time slot numbering) as claim.

Referring to claim 11, Barany discloses in column 13, lines 66 to column 14, lines 28 and in column 15, lines 32-35 of a base station adapted for use in the communication system as claim.

Referring to claim 12, Barany discloses in column 13, lines 66 to column 14, lines 28 and in column 15, lines 32-35 of a subscriber station (mobile station) adapted for use in the communication system as claim.

Referring to claim 13, Barany discloses in column 17, lines 66 to column 18, lines 64, wherein the subscriber (mobile unit 20) uses frequency correction channel (PFCCH) information to set an automatic frequency correction algorithm (a 1/3 frequency reuse pattern) before decoding of synchronization channel information (PSCH), this correction being a software correction applied on memorized samples (time groups or frequency groups) of the synchronization channel as claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Barany in view of Hagmanns (U.S. Patent No. 5,615,208).

Referring to claim 9, Barany discloses in column 17, lines 29 to column 18, lines 34 wherein Burst is 148 bits long for PFCCH (which has one control channel at approximately 148 bits long). Barany further discloses in the respective section that PFCCH bursts are placed in time slots TN0, TN2 in an effective 3/9 channel reuse pattern. Barany fails to disclose wherein the length L of a burst or is given by: L<N-d/(t*c). Hagmanns discloses in "2.1 Model of the transmission system" section of how a length of a burst is selected using the carrier frequency of the transmitted signal, v the speed of the mobile subscriber and c the speed of light. Furthermore, the burst duration based on a measure of the rate of change of the channel is 546us. L=148bits, N=s(kTs), d=250km, t=546us, and c=speed of light. Therefore, it would have been obvious to modify the teachings of Barany to include the teaching of Hagmanns with respect to the length of a burst containing a first control channel being selected such that devices (subscriber) can incorporate the time change properties of the mobile radio channel, enabling reduction in transmission delays.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 305-3988, (for formal communications intended for entry)

Or:

(703) 305-3988 (for informal or draft communications, please label "Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs
June 23, 2004

Ajit Patel
Primary Examiner